Grand Canyon

National Park Service
U.S. Department of the Interior
Grand Canyon National Park

JUNIOR RANGER

Activity Booklet

Welcome to Grand Canyon National Park!

The National Park Service manages almost 400 parks, monuments, and historical sites in the United States. Park rangers protect all natural and cultural resources for the enjoyment of present and future generations.

Being a ***Grand Canyon National Park Junior Ranger*** is a special privilege and an honor. As a Junior Ranger you will:

- ✓ Take care of Grand Canyon and other national parks.
- ✓ Explore Grand Canyon and learn more about its geology, ecology, and history.
- ✓ Bring fun facts home to share with family and friends.

Name: _____

Date: _____

GRAND CANYON NATIONAL PARK

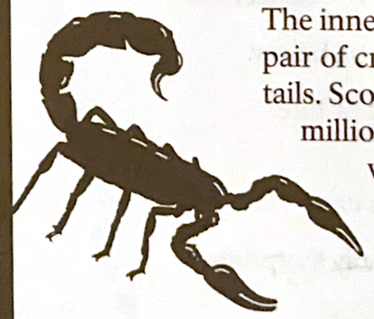
JUNIOR RANGER

RAVEN Ages 4-7

You can't miss the large, black ravens at Grand Canyon. They tumble and soar over the canyon as they ride the warm air currents. They are curious, playful, and like to live and work together. Be like a raven and imitate some of the sounds you hear them making!

COYOTE Ages 8-10

Coyotes are curious about the world around them. They have an excellent sense of smell and sight and can hear sounds that most humans cannot. Coyotes are called "song dogs" because they howl and yip to communicate with each other, and maybe just to hear themselves "sing." Be like a coyote and sing!



SCORPION Ages 11 and up

The inner canyon is a habitat for scorpions. They have a pair of crab-like pincers and a needle-like stinger on their tails. Scorpions are great survivors. They have existed for millions of years. They can go for a long time without water and can survive several weeks on a single, large insect meal. When it's hot during the day, scorpions hide under rocks and old logs, coming out to hunt at night. Be like a scorpion and seek shade when it is hot!

Instructions

You must complete all of the following steps to earn your Junior Ranger award:

☑ Attend at least **one ranger program** (see the park newspaper, *The Guide*, for a complete listing).

Ranger program I attended: Weird & Wild!

One thing I learned at the program: Tarantula Wasp

Ranger signature: _____

☑ You have two options: Complete at least **4 activities** in this booklet that match your age level; look for the Raven, Coyote or Scorpion symbols at the top of each page.

Or, complete at least **3 activities** in this booklet and a **litter or recycle pick-up.** Ask a ranger for a plastic bag. Please separate the litter from the recyclable materials.

☑ Return this booklet to the visitor center at Canyon View Information Plaza, Tusayan Museum, or the North Rim Visitor Center for review by a park ranger and to receive your Junior Ranger award.

Be SAFE and RESPECTFUL as you explore Grand Canyon!

- Always carry water, food, and sun protection.
- Stay away from the edge. The rim of the canyon can be dangerous!
- Never throw rocks into the canyon! Hikers may be below.
- Enjoy wildlife from a distance. Animals may kick or bite. If you feed them, your food may make them sick.
- Dispose of litter properly. Recycle whenever you can.
- Take home only photographs and memories. Leave only footprints.

Warming Up Your Senses

You have five senses you use to explore your environment: sight, hearing, smell, touch, and taste. You will use four senses today. We recommend you do not taste what you do not know, unless it is in your lunch!

Sit quietly in the forest or near the canyon rim. Look, listen, smell, and feel to help you complete the following sentences.

The colors of the canyon look:

brown
green
orange

The wind at the canyon rim sounds:

loud

The air today smells:

The weather today feels:

warm

How do YOU feel today at Grand Canyon?
Write how you feel in words or draw a picture.

Find a Rock

Geologists study rocks to learn how Earth formed and how it has changed over time. You can be a geologist and study rocks at Grand Canyon.

Check off the following rocks you see as you walk on a trail.

- ❑ a smooth rock
- ❑ a rough rock
- ❑ a flat rock
- ❑ a round rock
- ❑ a rock bigger than you
- ❑ a rock that fits in your hand
- ❑ a rock as small as your fingernail

Find different colored rocks on the ground and by looking across the canyon. Circle the colors that match rocks you see.

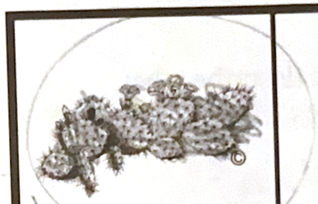
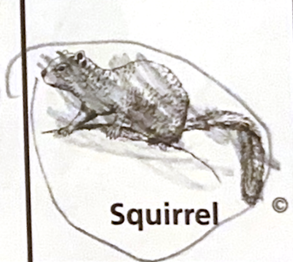
brown red pink orange green blue
black yellow white other colors _____

Draw your favorite rock.

Please leave it where you find it so tomorrow's visitors can experience it too.

Canyon Bingo

Use your detective skills to look for, but not collect, what is pictured below. Each picture is something interesting found at Grand Canyon National Park. If you cross off four in a row, you have a BINGO!

 Cactus	Elk	Ranger	Pinecone
Tracks	 Squirrel	Raven	Recycle symbol
Coyote	Pine tree	Draw Your Own	California Condor
Lizard	Colorado River	Mule deer	Fossil

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Pictographs and Petroglyphs

Many ancient people left behind pictures on the rocks of Grand Canyon. Pictographs are images that are painted onto rocks or cliffs. Petroglyphs are images that are scratched into rocks or cliffs. American Indians today can tell us the stories behind some of these pictures.

Draw your own pictograph in the space below and describe what it means. Never write on real rocks in national parks, they are a protected resource.

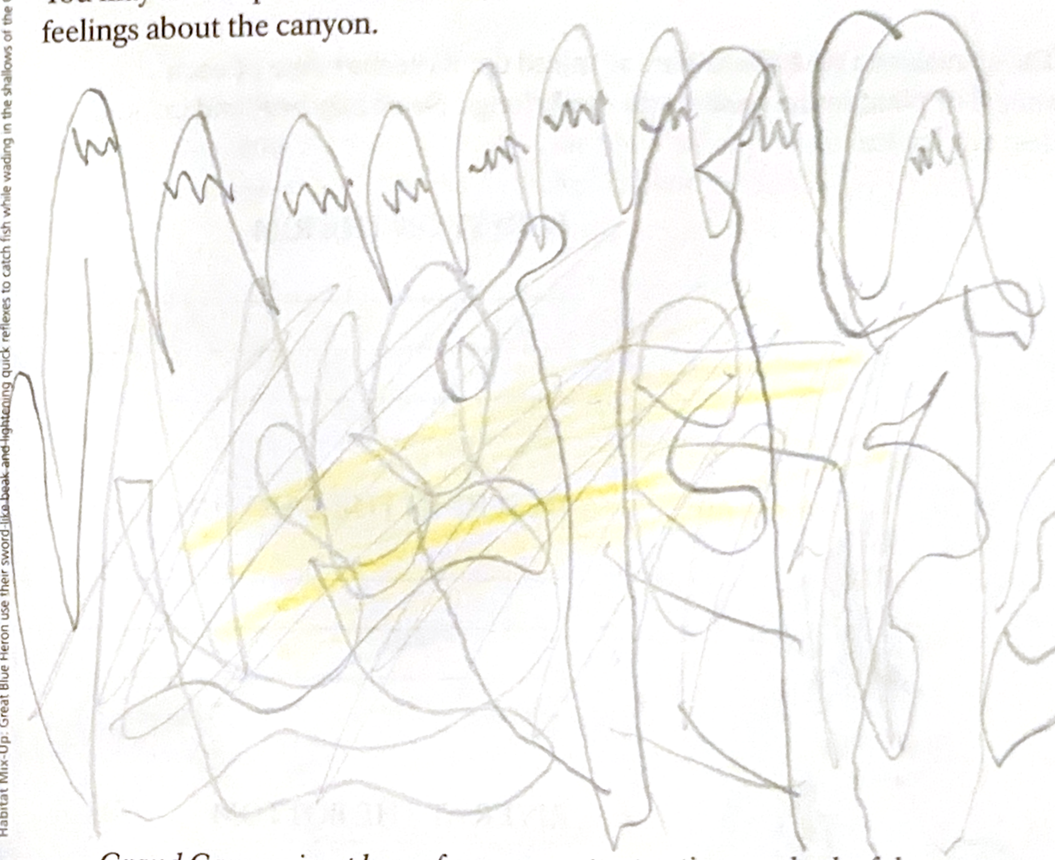
Grand Canyon is a homeland and sacred place to many Native American peoples.

Habitat Mix-Up: Ponderosa pine forests cover much of the Colorado Plateau from 6,000 feet to about 8,000 feet in elevation. Their thick bark helps protect them from the frequent fires that burn in this forest.

Habitat Mix-Up: Beaver live along the Colorado River and build their burrows and dens into the banks. They feed on bark and twigs they gather from the surrounding area.

What Makes Grand Canyon "Grand"?

Find a spot to sit quietly by yourself. Try sitting without saying anything for ten minutes. Record your experience. What do you hear? What do you see? You may draw a picture of the canyon or write a short story that reflects your feelings about the canyon.



Grand Canyon is a place of enormous proportions and colorful scenery.

Habitat Mix-Up: Great Blue Heron use their sword-like beak-and-lightening quick reflexes to catch fish while wading in the shallows of the Colorado River.

Habitat Mix-Up: Grand Canyon Pink Rattlesnake are only found in Grand Canyon and is one of 23 species of snakes found in the park. Many of our snakes feed on lizards.

Habitat Mix-Up

Grand Canyon has forest, desert, and river habitats at elevations from over 8,000 ft (2,400 m) to less than 2,000 ft (610 m) above sea level. From the canyon rim to the river below, Grand Canyon provides habitats for plants and animals similar to those found from Canada to Mexico!

The animals and plants below are all mixed up. Write the name of each animal or plant in the habitat where it belongs. Some may be found in more than one habitat.

FOREST ON THE RIM

_____

_____

_____

DESERT IN THE CANYON

_____

_____

_____

RIVER AT THE BOTTOM

_____

_____

_____

Rattlesnake

Humpback Chub

Beaver

Great Blue Heron

Kaibab Squirrel

Ponderosa Pine

Mule Deer

Lizard

Prickly Pear Cactus

© Illustrations courtesy of Zackery Zdinak

Habitat Mix-Up: Humpback Chubs are an endangered species. Water flowing over their large hump helps them stay on the bottom where the river current is slower.

Habitat Mix-Up: Lizards are well adapted to living in the desert. They are well camouflaged so you will have to have a sharp eye to find them.

Haiku Corner

Think of what you would like to remember most about your visit to Grand Canyon. Write a nature poem about it using the "haiku" format. Haiku is a traditional Japanese form of poetry about nature. Unlike some forms of poetry, haiku does not rhyme.

Line 1: 5 syllables (or "beats")
Line 2: 7 syllables
Line 3: 5 syllables

EXAMPLE

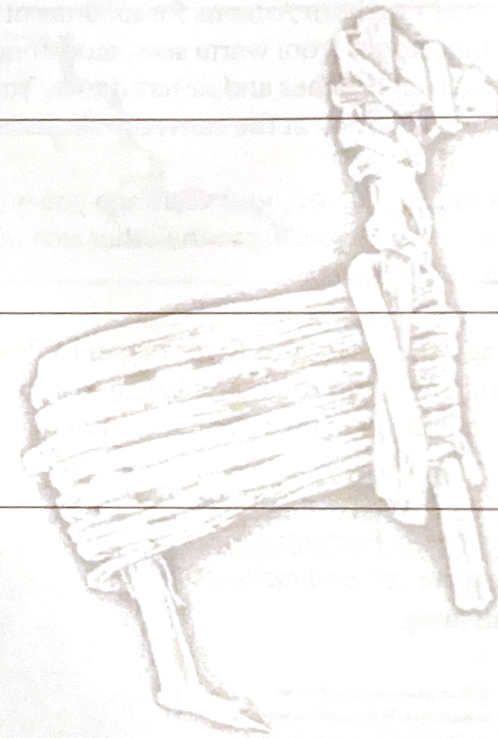
Soaring[1] speck[2] of[3] brown[4],[5]
the[1] hawk[2] disappears[3] into[4] soft[5]
canyon[1] twilight[2].[3]

_____

_____

_____

_____



Grand Canyon offers opportunities to explore and experience its wild beauty.

Habitat Mix-Up: Kaibab Squirrels live in the ponderosa pine forests, where it builds its nest out of twigs and pine needles. It eats acorns, fruit, and fungi, as well as the seeds, bark, and twigs of the trees.

The Dynamic Canyon

Can you imagine how Earth looked billions of years ago? How about millions of years ago? Do you think it looked the same then as it does today? Earth is a very dynamic place and is constantly changing.

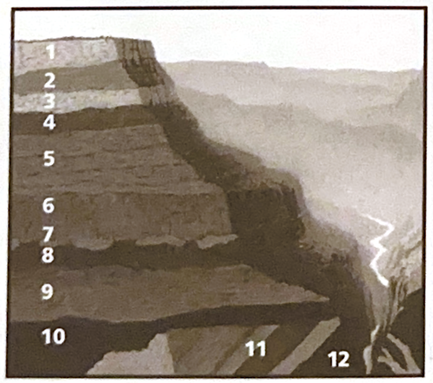
About 1.7 billion (1,700,000,000) years ago this area was covered by a shallow sea. Volcanoes erupted, building islands and spreading lava across a muddy sea floor. Through the process of plate tectonics, these islands collided with North America and pushed up mountains. The old lavas and mud were squeezed and baked into the oldest rocks of Grand Canyon – schist and gneiss.

About 1 billion years ago, the ancestral Pacific Ocean formed. Its shore moved back and forth over northern Arizona for millions of years. It left many kinds of rock — limestones from warm seas, mudstones from coastal swamps, and sandstones from beaches and desert dunes. You can see all these different rocks when you look at the canyon walls today.

If you were here over 6 million (6,000,000) years ago you would have been able to walk from where you are standing to the other side of the canyon on fairly level terrain. What happened?

About 6 million years ago the Colorado River began to flow through this area. It carried sand, gravel and rocks and began to carve away the land. Slowly over the next 6 million years the river cut deeper and deeper.

As the Colorado River cuts the canyon, other forces of erosion slowly widen it. Earthquakes, snow and ice weaken the rock; rain and melting snows carry the fragments away.



1. Kaibab Formation (270 million years);
2. Toroweap Formation (273 million years);
3. Coconino Sandstone (275 million years);
4. Hermit Formation (280 million years);
5. Supai Group (315-285 million years);
6. Redwall Limestone (340 million years);
7. Temple Butte Formation (385 million years);
8. Muav Limestone (505 million years);
9. Bright Angel Shale (515 million years);
10. Tapeats Sandstone (525 million years);
11. Grand Canyon Supergroup (1,250-740 million years);
12. Vishnu Schist and other basement rocks (1,700 million years)

The Grand Canyon continues to change today. Can you imagine what it will look like in a million years?

Draw a picture of how you think Grand Canyon looked or will look for each time given.

5 million years ago:

Today:

In 500 years:

In 5 million years:

Grand Canyon reveals a sequence of rock layers that serve as windows into time.

Habitat Mix-Up: Mule Deer have large, mule-like ears that keep them alert for signs of danger. We often find them resting among the pines on the rim.

Habitat Mix-Up: Prickly Pear Cactus have adapted to living in the hot, dry environment down in the Grand Canyon. The pulp of the pad and fruit is edible but watch out for the spines!

Wildlife Detectives

You are a wildlife detective. Your mission: to observe the presence, signs, and behavior of wildlife. You are always on the lookout, day and night, for fast- and slow-moving, camouflaged, or high-flying animals. You may also find clues that animals have been in the area. Look for tracks, nests, holes, scat (poop), chewed pinecones, bent grass, or feathers.

Use the spaces below to record your evidence. You may not be able to fill in all the boxes right away, so keep detecting during your stay at Grand Canyon!

WILDLIFE SIGHTINGS

Animal: _____ Animal: _____

Where sighted: _____ Where sighted: _____

Time of day/night: _____ Time of day/night: _____

Animal behavior: _____ Animal behavior: _____

Animal: _____ Animal: _____

Where sighted: _____ Where sighted: _____

Time of day/night: _____ Time of day/night: _____

Animal behavior: _____ Animal behavior: _____

It is dangerous to feed wild animals. Wildlife can become dependent upon handouts and lose their ability to hunt and forage. Help us keep wildlife wild. Never feed or approach wildlife.

EVIDENCE OF WILDLIFE

Clue: _____ Where found: _____

Draw or write about what it looked like

What animal do you think this is evidence of? _____

Clue: _____ Where found: _____

Draw or write about what it looked like:

What animal do you think this is evidence of? _____

Cinquain Lane

Think of what you would like to remember most about your visit to Grand Canyon. Write a poem about it called a "cinquain" using the following format:

	EXAMPLE
Line 1: One word to name the subject (noun)	canyon
Line 2: Two words to describe it (adjectives)	huge, colorful
Line 3: Three words of action about it (verbs)	eroding, growing, changing
Line 4: Four-word phrase about it	making me feel small
Line 5: One new word that names the subject (noun)	chasm

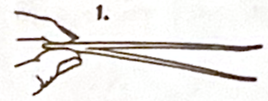
Artifact Art

An Activity to try at home

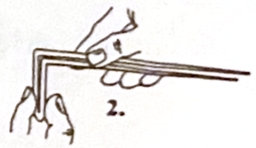
Humans have been living in and around Grand Canyon for at least 10,000 years. Split-twig figurine artifacts (items made and used by ancient people) have been found in caves in the canyon. These figurines were made of twigs from willow and cottonwood trees. They were shaped to look like desert bighorn sheep or mule deer and may have been used for good luck charms before a hunt or for religious ceremonies. See real split-twig figurines 3000-4000 years old at the Tusayan Museum!

You can make your own split-twig figurine using several pipe cleaners twisted together or one 3-foot piece of wire. Follow the steps and diagrams below.

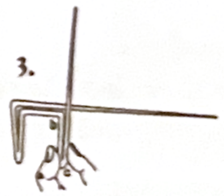
1. Fold in half.



2. Bend the fold down to form the back legs.

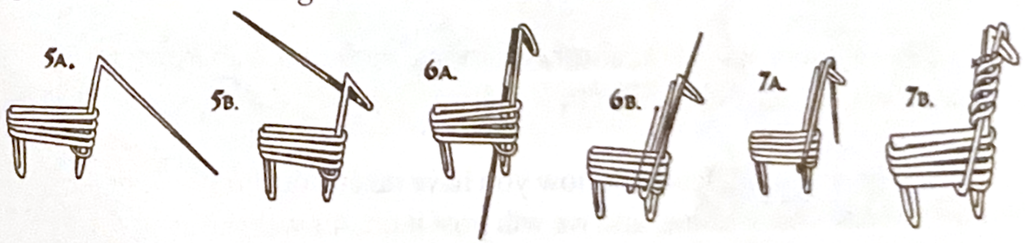


3. Bend one side down and then straight up, to form the front legs.



4. Wrap the other end around the outside of both legs to form the body.

5-7. Use the remaining end to form the head and neck.



What Do Rangers Do?

Park rangers have many types of jobs. As a Junior Ranger you can help park rangers to protect and preserve Grand Canyon and all national parks.

INTERPRETATION: Rangers take visitors on walks or talks to help them understand the park and its resources.

PROTECTION: Rangers keep the park and visitors safe, help hurt or lost visitors, and protect the resources inside the park.

There are many other National Park Service employees that help make our national parks wonderful places to visit.

Scientists study the plants, animals, water, soil, rocks, and air to make sure the park is healthy.

Maintenance workers build and fix trails and roads, and keep the park and buildings clean and safe.

Now that you are a Junior Ranger, we offer you a challenge. We challenge you to protect the earth at national parks and at your home! Try one of the following ideas or one of your own.

✓ Clean up an area at home, in your neighborhood, or in your town.

✓ Talk about Grand Canyon to your class at school.

✓ Find a place near your home to learn about plants, animals, rocks, and history.

✓ Become a Junior Ranger at another national park or a Web Ranger, visit www.nps.gov/webrangers/.

Send us a picture and details of how you have taken your Junior Ranger responsibilities back home, and we will post it on our website at www.nps.gov/grca/education/. Check it out!

Raven

Coyote

Scorpion

NATIONAL PARK SERVICE

The National Park Service cares for special places saved by the American people so that all may experience our heritage.

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